AMERICAN JOURNAL
OF
PHOTOGRAPHY

AUSTIN C. LEEDS, Publisher
JOHN BARTLETT, Editor

Issued on the 15th of Each Month

Subscription Price . . . . . $1.00 a Year
Foreign Subscription . . . . . 1.50 " "

ENTERED AT THE PHILADELPHIA POST OFFICE AS SECOND-CLASS MATTER

VOL. XIX. JULY, 1899. No. 223.

PRINT COMPETITION

IN response to our offer in the June number, a great many very fine photographs have been submitted. We feel sure the judges will have a difficult task in making the awards, and that the results (to be published in the August number) will be eagerly awaited. Tell all your friends about the competition, and get them to send prints. We trust these competitions will incite our subscribers to endeavor to obtain the best results possible in photography.

	CLOSING DATES	CLASS
No. 1.	Closed,	Water pictures (not seascapes).
No. 2.	August 20th,	Landscapes.
No. 3.	Sept. 20th,	Animal pictures.
No. 4.	October 20th,	Seascapes.
No. 5.	Nov. 20th,	Interiors.

All subscribers to the AMERICAN JOURNAL OF PHOTOGRAPHY are eligible in the competition. The decision as to the merits of the pictures will be made by an acknowledged authority on technical photography, and also by two well-known artists.

The criticisms of the awarded pictures will be published in the AMERICAN JOURNAL OF PHOTOGRAPHY.

THE AWARDS

1st,	Ten Dollars	($10.00)
2nd,	Five "	($5.00)
3rd,	Three "	($3.00)

RULES AND CONDITIONS

All prints must be mounted, with the name of the competitor written on the back of the card. Title may be placed on front.

The number of prints submitted in each class shall not exceed two for any one sender.

No prints previously awarded prizes will be admitted.

Each contestant must be a subscriber to the AMERICAN JOURNAL OF PHOTOGRAPHY. Subscription may accompany the entry of the prints.

Prints must be sent fully postpaid.

When the sender desires the return of prints, stamps must be enclosed: otherwise the prints will not be returned.

Awards will be made in each case on the 15th of the month following entry.

NATURAL BALANCE

FROM an examination of figure photography one is apt to notice how seldom the photographer is master of the powers of motion and natural balance. Although much useful information may be derived from the works of DaVinci, Flaxman, Thorwaldsen and others, the great source of originality is in nature itself. The copying of poses directly from the painters is destructive of all individuality and entitles the photographer to no credit for invention, however close the imitation may be; still, the great painters, and pre-eminently the sculptors, should be looked to for inspiration and for suggestions.

Whatever passion or meaning may be conveyed in the face, unless accompanied with consistent motions and gestures and a due equipoise of the figure, the intention of the artist would necessarily be contradicted and destroyed.

Therefore, to preserve in every case the requisite balance, and to represent with truth and character the relative degree of muscular activity to each and all the parts, is the great test of the artist's skill and as much the instrument of expression as the proper expression in the face itself.

It has been well said that it is this evident unity of purpose and the accordance of every part of the body (the hands and feet by no means excepted), with the expression of the countenance which gives such a natural and captivating effect to the works of Raphæl, as it was the still greater knowledge of the construction and powers of the human frame that enabled Michael Angelo to delineate every diversity of action and position with an energy, feeling and character peculiarly his own.

We might point also to Reubens for vigor of representation of natural balance, but there is a deficiency in the accordance of the muscular energy with the expression of the faces of his men and women.

This accordance presupposes not only ability on the part of the photographer to call forth the internal workings of the mind of man, but also great skill in those who pose for the special embodiment of the idea. There is great danger of photography transcending its limitations and of bordering on the grandiose or theatrically sensational. However, I do think that natural balance is not generally

thought of in posing; the whole attention being centered on the countenance.

Touching upon theatrical pose, one must not fail to perceive how careful were the Greeks to avoid overdoing the dramatic, even in the subjects requiring grand or terrific character. Beauty, with them, was the paramount principle in art; so that, even in the grief and anguish of Laocoon, there is no loss of dignity by representation of violent mental emotion as would disgust or horrify us in a modern French painting. The true aim of art is not to "harrow up the soul," but to excite our sympathy and, at the same time, our admiration.

In Niobe we see intensity of anguish combined with the most exquisite form and natural balance, which exalts it into the most sublime work of antiquity. As Hamlet cautions: "In the very torrent, tempest and whirlwind of our passion," we should "beget a temperance that may give it smoothness."

One of the most agreeable qualities of art is grace, which, though independent of beauty of countenance, is inseparable from symmetry of form, and so, chiefly dependant upon the natural balance of the figure. Grace is conspicuous in the artless positions and gestures of children, depending upon the harmonious undulations of all the parts of the body, which is generally counteracted in grown-up persons by the deformities of dress or by affectation.

Natural pose or grace of figure may be seen in the exquisitely delicate flexions of the head upon the neck, in the flowing lines of the arms, the rising or falling, advancing or retiring of the shoulders; in the facility with which the body turns upon the hips, and the constant muscular activity which calls forth the smooth and gradual changes, which take place to preserve the equilibrium of the figure.

To the photographer, grace or natural balance is generally associated with the draped figure; and sculpture, more than painting, is here his great teacher, especially ancient sculpture, for the Greeks always employed clothing to decorate, not to conceal, the human figure.

They have left us most excellent examples of every kind of garments, in motion and at rest; some large and ample in folds and texture, some of extreme delicacy.

The photographer should carefully study these, as he may gain from them an insight into the principle on which drapery should

be adjusted, and by reference to nature and the demands of his own art, obtain a knowledge of the true theory.

The pre-Raphælites very early perceived the importance of drapery, which usually (as with Rossitti, their great admirer,) forms so large a portion of their work.

Albert Durer has produced some very grand examples of drapery, which, no doubt, were derived from the same source open to the photographer,—Nature.

Flaxman was a great master in this department of art. The adjustment of his drapery is admirable and the precepts he left on the subject, in his lectures, should be diligently studied.

In acquiring a knowledge of the mode in which folds are naturally generated and spread, according to the coarseness or fineness of the material employed, the employment of the artists' lay figure will be found of the greatest service to the photographer in studying drapery in repose, which, perhaps, is about all he has to care for in general posing of the figure. The student must endeavor to comprehend the rationale of drapery; how it is naturally affected by raising or extending a limb, in what degree the weight of the material counteracts the effects of the motion; how the folds originate from those points where it is held, enlarging as they recede, spreading where unconfined, or changing their course where they meet with resistance. He should pursue them carefully through their whole progress, attending duly to those sudden terminations, technically called eyes, which are often so characteristic and effective.

A knowledge of all these particulars will afford him opportunity of turning drapery to a very great account in posing the human figure. He will not then need to tire or disgust his subject by experimenting with arranging and rearranging the folds without a definite idea of what he wants to effect, trusting to chance for some striking or effective arrangement of fold.

IMITATION

IF the study of pictures alone were sufficient to make first rate photographers of us we might easily attain such eminence by reason of the abundance of examples accessible to us. But with such apparent great advantage over our predecessors of a score of years ago we really have more difficulties to contend with both at the commencement and during the progress of our studies.

The wealth of beautiful examples is apt to create embarassment. We wander through the salons admiring rather than studying the productions, and are apt to settle in our minds that an approach to such excellence will be a happy consummation—happy enough for us, and so our aim is from the very first low—and the tendency is to a self-satisfied mediocrity.

Others of us find it easy to imitate in a superficial way, and our imitation perhaps catches the eye of the superficial critic, and we are deceived into the belief that we too are of the excellent. We omit or disregard detail in our work, not because the omission appeals to our sense of the beautiful, but because some production which has been acknowledged of merit has made the omission.

We fail to see that the virtue was not in the omission but in the harmonious subordination of the detail to the artistic effect of the picture, and so we miss the real lesson the picture would teach and emphasize that which the artist really intended to keep in subjection.

The bigoted sectarian generally admires in the wrong place, clings to that which is merely accidental and fails to perceive that which is essential in the style.

Another obstacle to the advantage to be derived from the work on exhibition is the disposition created by an examination of the productions to rest satisfied with our present standard.

In the assemblage of work of the year in our salon exhibitions despite the onslaught of the judges for admission and their wholesale exercise of the pruning knife there must of necessity be much that is indifferent and some that is positively bad.

The personal equation of the judges—in exercise of selective power must come into consideration and a few black sheep may

infest the flock, and inexperienced eyes may light upon the indifferent or exceedingly bad pictures and not without injury.

They are apt to thank their lucky stars that they can do better : and doubtless their thoughts are proper and just, and naturally they feel that all that is necessary for admission to the elite four hundred is to lower their level and exercise a little tact and ingenuity and they will receive patronage.

Imitation on principle should be the guide for those who study from their contemporaries at exhibitions. Northcote, the painter, was told that a picture had been painted by a living artist that might be mistaken for a Claude. " Then I know," was his reply, " that it is good for nothing ; if you had told me that a picture had been painted as fine as a Claude it would have been quite another thing, for to be equal to Claude, a painter must be as distinct from him as he was from all the painters before him. He must have looked at nature for himself, as Claude did, availing himself of the assistance of previous art only in the degree in which Claude did so."

The adoption of an idea, incident, or an attitude in posing from some one who has preceded us, opens us to the charge of plagiarism. But the charge is often unjust. Whenever the translation can be made with a certainty of improvement it is deserving of commendation. If not it hardly merits condemnation. Both Raphael and Shakespeare were open to the charge of borrowing from their predecessors, but posterity has not thought them robbers, but rather that their predecessors were honored by their draughts.

At the same time the habit of looking much into art, photographic, or the painter's true art for suggestions of incidents, attitudes or composition is full of danger, inasmuch as such practice is apt to encourage indolence, depress self-effort and repress originality and individuality.

Nature is a broad field for study, and a field that yields a rich harvest to the tiller. No truly great artist ever allowed even the finest pictures to stand between him and nature.

We all know that Flaxman, classical as he was, derived the hint of many of his most excellent compositions, and even single figures, from the streets and from the drawing rooms, and still more from his own domestic circle ; and Stothard speaks of walking the streets for his subjects. His sketch books were filled

with groups of figures and scenery made without selection but merely of what chance offered to his notice while travelling. Sometimes objects which the window of an inn presented while horses were changing, and sometimes what he saw from the top of a stage coach. So that he did not fall into the error fatal to originality of going to nature for things only that resemble what has been seen on the canvas of painters.

Among the drawings by Raphael, collected by Sir Thomas Lawrence, are many evidently of what chance presented to him. There is one sketch in particular most characteristic, an original of three young men in the dress of his time sitting at a table, with but slightly varied attitudes, in all probability an accidental group that caught his eye.

The attitudes of many of Michael Angelos' groups and figures look as if he had made a snap shot from nature.

So that finally we may regard imitation on principle to be the adopting from nature or from our predecessors or contemporaries in art, that which is best fitted to express the idea or conception we wish to embody—and which the casual or careless observer would pass by or reject as trifling or unworthy of his consideration.

It has been truly said "The perception of what is false is, at least, a step towards the knowledge of what is true."

THE recently introduced developer, Adurol, we are told, is a bromo-hydroquinone. It has been found that the substitution of bromine or chlorine for a molecule of hydrogen in hydroquinone produces a developer with some new marked features, giving softer and more harmonious results in the negative, with equal exposures, than with hydroquinone alone, besides acting much more rapidly and with perfect freedom from stain.

The formula recommended, as published in the *British Journal of Photography*, is :

Water,	200 c. c.
Sodium sulphite,	75 grammes.
Potassium carbonate,	150 "
Adurol,	15 "

For use, dilute one part with ten or fifteen of water.

THE LAND BEYOND THE FOREST

MRS. EMMA PARAMORE

LIVINGSTONE, the great traveller, says: "It is easier to travel than to write about it." What then can I hope to say who am bereft of the pen of the ready writer, of the novel and interesting scenes I beheld while making a short stay in Transylvania, which is the Roman name for the English Land

Group of Saxonian Children

beyond the Forest. The "harvest of a quiet eye," as Wordsworth puts it, may brood and muse over what has been gleaned in a foreign land—but when one sees a lively experience translated to paper it looks flat, tame, and unprofitable enough to oneself, and doubtless is so to the reader. However, I shall attempt briefly to touch upon some of the more interesting topics of this most interesting country.

On leaving the station at Vienna we started for Belgrade and took passage on that magnificent river the Danube, passed by a picturesque castle on the edge of a crag, stopped a short time at Presburg, which look stolid and uninviting. But soon the prospect changes. The land becomes as flat as a desert relieved only occasionally by slight rolling country.

But despite the monotony of the scenery there is an unaccountable impression of grandeur conveyed by the mighty river in its majestic flow.

There seems to be but little life or activity along the shore. Large herds of oxen wade in the stream near the shore where we are about to land, and I did not notice before what a motley crew we had aboard. There were gipsies, most of them soldiers, Servian gentlemen and ladies in their Oriental looking costumes, Wallacians and Dalmatians, besides English, Americans and Austrians.

Every one seemed to have some special friend to greet them on landing. Fragile little carts with skinny ponies stood in readiness for those who wished to dash at a wild rate over the plain. I was almost afraid to mount one of these vehicles and expressed my doubts about it but was surprised at being reassured in tolerably good English by the Jewish driver.

The road was excellent and would have delighted a member of the L. A. W. I noticed along the roadside neat, well built cottages with signs lettered "Weg Einraumer," No.——. I was informed that these were dwellings of the men appointed by the Government to take care of the road, being numbered and regulated with the precision of military discipline.

We changed horses at a little town whose name I have forgotten but I remember the fair and market which was being held there. For all the world it looked just like the fair scene in the Opera of Martha. There were troops of women and cart loads of country people, young girls in holiday attire dressed in snow white with

stripes of red and blue embroidery over their shoulders and round the sleeves and large silver medals hanging from their necks over their bosoms.

Some wore around their head a large white handkerchief which flowed down behind like a bride's veil, others had brighter hued clothes, purple predominating. Others had on well fitting sheepskin jackets without sleeves embroidered all over with red and green and blue. Then others with scarlet and purple fezes on their heads, with horn-like appendages in front.

The Bride

Now and then a gipsy passed by contrasting strangely with his Hindoo countenance. Now in the distance we see a whole bevy of young girls stepping forward with snow white garments and head gear like the field daisies, and as they advance their scarlet girdles stream in the air like a flock of flamingoes moving over the plains.

Most of them had distaffs stuck in their girdles and one with arms distended was winding off red yarn. It is astonishing how they can spin as they walk, their merry tongues keeping pace with their nimble feet.

We reluctantly left this picturesque scene and were consoling ourselves with the wonderful excellence of the roads when suddenly our little Jew driver, pointing to a broken bridge with an air of satisfaction, exclaimed: "Now for bad roads, Transylvania begins here;" and indeed I soon began to feel it in all my bones.

We were approaching the Eiserne Thor Pass, or Gate of the Iron Pass. On the right are dense woods and on the left barren hills. Gradually the ridges sink down and one can see a dip where one can pass through. This is the pass. You now descend somewhat and presently the whole valley spreads out before you. It reminds one of the valley of the Inn between Innsbruck and Kurfstein but is much wider and almost as beautiful.

The traveller passes from one valley to another and there is a constantly recurring change. The view is invariably bounded by wooded hills and peaks of higher ranges. At every turn there is a new scene to divert you, a never-ending succession of surprises of discoveries of fresh tracts, so that the mind is kept alert with excitement and anticipation and is rarely disappointed.

Hermannstadt looks like what one imagines a town in the middle ages was. So very quaint with its strange looking buildings like the houses in Nurenburg, with narrow streets opening up into the Platz at the end where stands the church with a green tree or two in front casting an agreeable shade.

The inhabitants are in physiognomy Germans. They call themselves Saxonians but they are not from Saxony.

The red girdle is not worn here, but a piece of red stuff called *kretinsa* and a sort of black apron which meets and laps over at the sides. On the head the girls wear a sort of shawl, either red or yellow. It covers the forehead and descends on either side of the face. The snowy-white sleeves are as large as a bishop's.

Some married women have an abundance of white drapery on their heads, full, large and loose, and turban like, just as we see in some of the old German paintings representing Bible history. In Van Eyck's painting of the Christ in the stable at Bethlehem, the Child is surrounded by an eager crowd of women, dressed just like the women I saw around me at Hermannstadt, pressing forward with curiosity to see the new born babe. The long ends of the gauzy veil of fine white material hang down behind, and the flowing folds, and the fair purity of color lend a graceful air even to the commonest wearer.

Saxonian Peasants near Hermannstadt

Here and there is a girl with a blue cloth jacket, open in front, showing a snow-white chemise which admirably sets off the classic form beneath.

The Saxon peasant wears a broad-brimmed felt hat and his long hair falls back to his neck; but the younger men generally crop their hair short.

But you should see the girls in their Sunday clothes. I strolled over the neighboring village of Hammersdorf, so that I had an opportunity of seeing the rich dress of the village lass when going to church. Over the blue woolen skirt they have a large white muslin apron, the border fancifully and deftly worked. But what is especially remarkable is a broad girdle of bronze, though sometimes of silver gilt dotted all around with knobs or buttons set with turquoise, amethysts, garnets and pearls. Some are handsomely wrought with filigree work in bullion.

At the house of a rich peasant I had opportunity of examining one of these girdles attentively. The clasp in front was embossed and massive, and the whole affair looked as if it had been donned by an emperor at his coronation to fasten on his sword.

One cannot help wondering how such ornaments came to belong to peasant maidens, as some of them must be worth a hundred dollars or more. They are heirlooms and come down from generation to generation. The headgear is a most remarkable piece of millinery. It is a strange looking cylinder of paste-board, covered with black velvet, worn perched on the top of the head; and from the plaited tresses a whole collection of tape bands—red, and green, and blue—flow low down over the dress.

The married women also have—and they only—a cloak of cloth, plaited together in innumerable folds, such as we see in old Flemish pictures. But the cloak does not close around the neck as a cloak intended for warmth should. Through the collar is passed a strip of board, so that when worn, the upper part forms a straight line from shoulder to shoulder. The whole garment is intended only for ornament and a sign of matronly estate.

When church is over all this finery is taken off and carefully deposited in a large chest, which forms part of the furniture of every peasant's house.

On our way back from church we passed through a vineyard on a gentle declivity, and enjoyed some of the finest grapes I ever tasted. The honey of Transylvania is also most delicious,

pelucid and aromatic, and most delicately flavored—food for the gods, indeed.

I find that I have said so much about the people that I have no room for further description of the scenery, which I shall try to describe, I hope, in another paper.

Saxonian Peasant Girl in Winter Dress on Sundays

ARCHITECTURAL PHOTOGRAPHY

THE artist is just beginning to appreciate the many advantages resulting to art from photography. Its improvements have followed each other so rapidly that we cannot but expect many more and are quite in the dark as to what may be its next wonder. While I believe that photography, though tending to relax the industry of inferior painters, will stimulate the exertions of the best; for much, very much may be learned from it if used as a means of becoming better acquainted with the beauties of nature, but not the least of its services is the facility with which it renders such subjects of art as would require only the most tedious labor to represent with graver or brush. I was never so forcibly struck with the great importance of this aid than when recently examining a series of expensive etchings of cathedrals and comparing them with some large size direct photographs of the same.

I thought how really meagre in the representation of detail these etchings were and how much more valuable as studies in architecture were the photographs. But not alone in detail. As I further studied the two sets, I saw how inadequate the pencil was in giving the simplicity, and breadth, and inexhaustible modulation of surface and symmetry of outline, as well as subordination of the elaborate ornament to the whole composition. For where the etching attempted to give mass and breadth it was only with sacrifice of detail. Moreover, despite what has been said about lens-distortion, I must say the photograph excelled in correctness of perspective and accuracy of lines and angles.

But it does not follow from this that all photographs of buildings are artistically correct in perspective. One's attention is called to this when travelling.

If you are desirous of securing a photograph of some beautiful Grecian temple, or Gothic cathedral, which has inspired you with its magnificence, how disappointed you are, if not disgusted, with specimens the photographic dealer offers to you. They have all been taken without any idea of the actual system of curves and perpendiculars which constitute the glory of the structure. The first thing to attend to is to place the camera level and have the plate perpendicular. This can only be secured by use of a plumb line; for the eye, however accurate, cannot always be trusted. A

St. Anne de Beaupre—Quebec

WALTER P. STOKES

Mechlin—Brussels Gate DR. ELLERSLIE WALLACE, JR.

swing-back will always be required, and care must be taken to the focusing, as it will be necessary to raise the lens panel, the centre of the defining power will be thrown in the foreground, leaving the spires out of focus. Generally speaking, it is best to focus on the most important part of the subject and stop down to the smallest stop, for sharpness is indispensible to architecture.

The exposure should be full, so as to secure richness of shadows and softness of high light.

Full sunlight coming from one side or the other, so as to cast direct shadows from the prominent parts of the structure, makes most effective pictures. An overcast day may give a wealth of detail in the shadows, but the picture will lack contrast and vigor.

The determination of the best point of view is of great importance. Generally the facade or front is chosen, but picturesqueness may require a more angular view—front, with partial view of the side. Always use a long-focus rectilinear lens, especially for Gothic structures.

The best view of a high building may be from the window of the house opposite, for this not only better equalizes the position on the focusing glass, but also enables you to escape the bothersome crowd which gathers from every quarter as soon as the tripod legs are extended.

The approach to the building is often obstructed by the narrowness of the street, and the photographer is tempted to use a short-focus, wide-angle lens ; but the question is, would it not be better to do without the view than to accept it under such conditions.

The view which the rectilinear lens gives is more like that of actual vision ; but, if the camera is pitched forward, it will make the parallel lines diverge upward, if thrown back it produces downward divergence or pitching together of the perpendiculars, which is quite as false.

Clouds in the sky of architectural views seldom add to the effect of the picture unless the building is small enough to admit of landscape in connection, but where the plate is occupied almost entirely by the structure clouds, distract the attention too much and destroy the repose of the picture.

One thing should be remembered, not to block out the sky with opaque on the negative. It is impossible to preserve by any brush work, however carefully done, the delicacy of the architectural outlines.

Haarlem, Holland—Church of St. Baoru DR. ELLERSLIE WALLACE, JR.

PORTRAIT BACKGROUNDS

ONE of the most important considerations in the composition of a picture, photograph or painting, is the background, by which term is to be understood everything seen beyond the plane on which the figure or figures are arranged.

A background is an absolute necessity to the photographer. There must be a setting to his picture; there must be something to relieve his figures, to explain the story he is trying to tell, to complete the picture without attracting more attention than its subordinate office may fairly claim.

The background, then, first of all, should not be obtrusive, there should be no overlaying the picture with a multiplicity of details which add nothing to the interest, challenging nearly as much attention as the figures themselves. Neither should the background be unmeaning or inappropriate, but entirely subordinate and blended with the figures, like a well-adapted musical accompaniment, supporting and assisting instead of distracting and annoying.

Though the background be sometimes a troublesome and dangerous companion to the figure, it is nevertheless capable of being rendered a most valuable ally, for, though in general it should be negative and retiring in order to give prominence and force to the figure, it often affords the photographer an opportunity of showing his originality in the introduction of striking associations or ingenious allusions, which may add grace and interest to the subject, explain the story, or emphasize the individuality. Besides, technically, it may be of the greatest use in giving vigor to some parts of the picture, softness and repose to others, union and harmony and effect to the whole.

Backgrounds may be either landscape, architecture or drapery.

When landscape is made the setting for the figure, it should always be a constituent element of the subject and not merely a contrivance to help out its pictoral effect, as is too often the case with the best of our studio accessory landscape backgrounds.

One of the writers in your journal, some months ago, remarked upon the value of the horizon line in the background and his ideas as to its height entirely coincide with my own.

Much of the grandeur of a subject is owing to the adoption of a low horizon line which makes everything in the picture tower

above the eye, and besides, there is not the same space of foreground which must naturally occur in a picture with a high horizon demanding to be filled, or presenting the emptiness of the desert, and therefore, requiring great care and exercise of taste and judgment in excluding incongruous elements from it. But, here let me caution the photographer not to approach too inordinately near his figures and at the same time depress his horizon, or the result will be a false conception of the size of the figure, which will assume gigantic proportions and seem on the point of crushing the too diminutive landscape about it.

Another background setting for the figure, though seldom employed by the photographer, is architecture. It supplies forms, rich or simple, calculated to give effect and grace to the figures, and, at the same time, an air of dignity to the picture, as well as often to afford opportunity for a variety of appropriate and interesting associations.

As an example we might point to the works of Raphæl, who employs architecture so effectively as a setting to portraiture. Titian, Paul Veronese, Reubens, Claude, and many others, show in their works examples of the importance and subserviency of buildings, exteriors and interiors, in figure compositions.

The French painters exhibit great skill in the management of their backgrounds, in the composition of which they offer many of the best examples. They have made use of flat walls and suspended draperies, which add largeness and give simplicity to the general design, and set off the richer accumulation of parts in the figures.

In a full length figure a perfectly plain background is difficult to manage, so as to give a proper atmosphere and prevent the figure lying flat upon the surface. The value of the aid of background drapery will therefore be appreciated and its relation to the figure and its drapery be apparent, for it determines where the figure should be relieved, and, on judicious management of the drapery in the hangings and in the dress, everything depends.

Moreover, the ground, with its curtains, etc., may be useful in making distinct, or in obscuring, certain parts of the figure. Irregularities may be lost in the ground by having the dark side of the figure merge into the darker background, and this dark side may be the defective side.

There is always a demand for first-rate portraiture. The diffi-

culties connected with the production of artistic work are much greater in this than in any other branch of photography. The landscape photographer has more abundant material at hand, allowing more latitude in combination, more scope for effect, nor will his shortcomings be so easily perceived. A portrait stands solely on its own merits. It is very much like Jeremiah's figs—the good, very good ; the bad, very bad, indeed. In portraiture there is no compromise.

How often do we hear the complaint that year after year our exhibitions of oil paintings are crowded with pictures of people about whom we know nothing, about whom we probably care less, yet these very pictures might be made very interesting, for our attention is at once riveted upon a striking portrait which possesses merit. It stands out pre-eminently from all the other pictures. It is not because portraits are of common-place people that artists pass them by with indifference. Rembrandt, Reynolds, Reynolds, Gainsborough, painted just such people, but they had the faculty, or, let us rather say, genius to make make the commonplace instinct with their own thoughts and sentiments.

It is within the power of almost anyone who can handle a camera to make a portrait which shall look more like the sitter than anybody else, but to make the face mirror the soul is the work of an artist, whether he uses the brush or the lens. I would not say lens had I not seen simple photographs in which the face had a peculiar sweetness of expression, which seemed to actually tell the very thought passing through the sitter's mind.

Perhaps you may say, "such portraits are very rare, only happy accidents." I will acknowledge it, and yet hold my belief in the power of the camera to mirror grace, loveliness, beauty, truth. The existence of a few happy accidents is encouraging, and we may on a time have one of such angelic visitations.

To produce first-rate portraiture demands of the photographer, just as it does of the painter, not only talent and skill, but also culture and refinement. Let photographers think high of their calling and keep to the high standard regarding more what is called fastidiousness of their patrons, and, I warrant you, people of taste and refinement will take as much delight in looking at an album of portraits as they do in looking at landscapes.

SENSATIONAL PHOTOGRAPHY

MARY ERWIN

"From Grave to Gay" ERNEST HECKROTH

IT may be said that all art, essentially, is sensational, since its object is to work upon our feelings, but sensationalism, as generally regarded, is considered as a sort of adventitious growth upon art, and therefore abnormal, springing from a superfluity of vigor and energy and rather contributory to the debility and decay of art than to its healthful progress.

As in the animal organism, health is the outcome of a full harmony among the parts and disease the result of the increase of the activity of any special function over others, so in art, any tendency in a specific direction, either in ornamentation, or in a desire for novelty, is sure indication of a morbid condition, which, if suffered to progress unchecked, might lend to the debasement of art itself.

Sensationalism, therefore, briefly defined, is a misapplication of vigor, attracting by its singularity rather than by its beauty of expression. It refuses to take the proper channel by which art alone can be rendered effective, preferring to create new paths for itself, dissipating its energies over new and untried fields until it is either absorbed, transformed into obscuring mists and fogs, or becomes

standing pools—stagnant and offensive. Art is governed by laws which are the natural evolution of accumulated experience, and hence, to be effective, demands a certain degree of conservativeness in its treatment.

The greatest painters have not astonished the world by novelties in the arrangement of color, light and shade which have no existence in nature, but rather by the unexpectedness of combinations, original and novel, but not contrary to truth. Photography, like painting, has a tendency to get away from nature's simplicity, and the photographer, like the painter, tries to persuade himself that he is dressing up nature to advantage, by studio tricks, by theatrical or sensationalism, and bizarre posing.

These tricks, with the gloss of novelty upon them, pass awhile current for the gold of art. Fashion sanctions their usage and false taste demands pictures made by such facile artifices, until by familiarity with what is false, one gets so perverted in taste that it is impossible to distingnish and appreciate the beautiful and the true, when some one more venturesome than the rest has the courage to offer it, regarding it as something altogether too commonplace and ordinary.

Good taste is, after all, nothing but exercise of good judgment. Sensationalism, it must be admitted, is a step downward, since it tempts the photographer by its very demands, to dash, and coarseness and carelessness of manipulation, and disregard of technical qualities, and the various other forms of mere effectism.

Then, in turn it leads him to subjects either vulgar or profane —vulgar I mean in the sense of humorous or repulsive, and profane in the sense of disregard of the true aim and province of photographic art, touching on the domain of sacred or imaginative art. When photography undertakes to present on the walls of our photographic salons the "Agony of Golgotha," and has a green baize exhibition space to itself, and a counsel in the photographic journals, skilled in art puffery, to glorify its merits, photographic art has reached, to say the least, a most dangerous pinnacle of sensationalism.

True, art of the sensational order cannot draw the artistic mob without considerable measure of proved ability, and it is by virtue of the ability displayed in the production of such pictures as "The Dead Christ," or "The Crown of Thorns," or "Ecce Homo" that the dangerous effect upon photographic art is heightened.

As Charles Lamb says, "Instead of realizing an exalted idea we have only materialized and brought down a lovely vision or sublime feeling to a low standard of the flesh."

Theatrical posing and lighting, it is true, has done much to influence taste, but just now the danger lies more in the direction of the amateur than with the professional photographer.

Though sensationalism springs from vigor, it possesses not the strength of simplicity which confers enduring interest. It is exaggerated vigor—as sophistry was defined by Plato to be that which, not being philosophy, aimed at seeming to be such. So, sensational photography pretends to the vigor which is beyond the ability of the artist. Vigor which cannot attain its purpose by the powerful way of simplicity, seeks to reach it by inferior roads, which for a time are certainly better travelled and more popular.

Mozart's "Batti, batti" is a beautiful air, but we have heard many an orchestra with more trombones and trumpets in it which received tumultuous applause.

PHOTOGRAPHING WATER SCENERY

GRANT BENSON CHAPHAM

AMONGST the easiest things to group are boats and ships on the water. They seem naturally to take pleasing positions and the different effects of light and shade on the shifting sails and hulls adds much to the picturesqueness. Even when the sun is at full glare the play of the light on the water, the forms of the waves if the water is rough, and the reflections when it is smooth, all lend a hand, as it were, in the grouping of the most complicate and delicate kinds.

In studying water views there are several points to consider—the reflection of the sky and surrounding objects, the color and conditions of the water, and its transparency and refractive power.

When water is perfectly smooth it reflects everything perfectly, like a looking glass, up to a point not far distant from the eye. At a nearer point we begin to see through the water, or if the water is muddy or inclined to be muddy we see its color and also shadows of the bank, trees and other objects. Frequently we see

both shadow and reflection and most strongly if the sun is on one side of us and not too low down on the horizon.

These conditions are to be studied by the photographer as they are essential to a good picture. For if the photographer should select his view when the sun is behind him and at the same time a slight wind is blowing so as to disturb the surface of the water not only is the reflection of objects destroyed but the water is made to look so opaque that when seen in the photograph one is not able to distinguish it from the dry ground.

Frequently clouds produce besides reflection of their forms also shadows even when the water is quite transparent. Such conditions give delightful variety to the surface of the water and also at the same time admirably delineate the forms of the small waves.

Waves are also accentuated when the light comes from the front and when the sky is over-cast. Reflections and shadows on the surface of the water enable the photographer to secure interest in the foreground.

We must not forget that when the sun is in front of us and shining on the water, the white foam appears dark at the point where the sun is reflected from the water.

Wet sand reflects objects like smooth water and where the horizon is bright shows as a streak of light. The wet sand at the edge generally reflects the waves in almost vertical streaks. Birds on the wet sand standing together with their reflections add greatly to the beauty of the foreground. So do swans or ducks swimming near the shore.

A boat coming into the shore gives great interest especially when it is being pulled in by the boatmen. The study of boats might have a chapter alone devoted to it. There is so much about the anatomy of a boat that one needs almost to be a sailor to show them to the best advantage.

Boats ought not to be photographed too high out of the water, and you should notice that an incoming boat is always more picturesque when it leans over with the wind. It should, therefore, never be taken when it has an upright position, for some cause or other it never looks natural straight up and down.

There is an appearance of life and energy when the boat is heeled over by the wind and is dancing on the waves.

Never take a view of the boat when the water is even along

the boat; the boat so taken looks like Coleridge's "Idle Ship on an Idle Ocean." The idea of motion is entirely destroyed.

The broadest part of a boat is rather forward—from perspective. When the sun is dead in front and the picture is taken just as the disk is eclipsed by a sail you have a time when the most glorious effects are produced.

Waterfalls also, I suppose, belong to water scenes. A little waterfall is very delicate in its play, and always makes a more charming picture than the photograph of a cataract like Yellowstone Falls or even Niagara. Despite the grandeur of rainbows, and clouds, and mists, Niagara belongs more to poetry than to art.

Little mountain streams so plentiful in our section of the country make charming pictures. It seems to me that instantaneous views of rapid running waters where it is lashed into foam over stones are not as satisfactory in conveying the idea of swift motion as brief exposures of a second or two. You may lose some of the accuracy of detail in the time exposures, but then the stream or fall does not look like a petrification devoid of action. Of course time exposures are not recommended for ships on the water for fear of the translation of any movement; but it is seldom necessary to give less than one-tenth of a second.

We sometimes are obliged to take water pictures with boats from our position on another boat. In such cases it is necessary to snap the shutter when the motion of your boat changes to prevent any show of motion in the picture.

Almost any little bit of water surface adds to the interest of a landscape however humble it may be in itself. It is always a bright point of light and reflects the surrounding beauties.

An approaching storm or a storm itself with the attendant troubled waters is the time to secure some novel results; even if your jacket does get a good wetting you will not regret it when you come to develop the plate.

While talking about movements I should not forget to say that the manner in which the hand camera is held determines whether you shall have a neat clear picture or a double outline and blurr. It is necessary, of course, to have a finder when taking water views, and the only advice I can give for steadiness, is to hold the camera against your breast, don't get nervous or excited so that your body conveys its motion to your instrument. Practice at at home considerably before you venture out on the water.

DEVELOPMENT AND FIXING COMBINED

J. M'INTOSH

KACHIN, about to be placed on the market as a developer, is a white crystalline powder easily soluble in water, and does not stain plates, skin or nails. Its makers recommend the use of sodium sulphite with it as a preservative, and sodium hydrate or sodium carbonate as the accelerator.

With a view to determining the correct proportions in which the developer should be compounded for general use, to what extent it might be modified to suit varying conditions of work, and in what way it would compare for general usefulness with other agents, a considerable number of experiments were made. Several brands of plates of different speeds were exposed upon a variety of subjects. The exposures varied from half the estimated correct exposure to four times that which would have been sufficient for the subject on hand, the object being to submit the developer to the tests which would be likely to occur in practical work.

After a number of experiments upon correctly-exposed plates, during which the constituent parts of the developer were frequently modified, a formula was evolved which gave excellent results with all the plates tested, and which is capable of being easily adjusted either previous to development or while development is proceeding, to correct errors in development within wide limits, and so obtain the best possible results.

STOCK SOLUTIONS.

A—Kachin,	120 grains.
Sodium sulphite,	1,200 "
Water to make	10 ounces.
A—Sodium hydrate,	80 grains.
Water to make	10 ounces.
C—Sodium carbonate,	1 ounce.
Water to make	4 ounces.
D—Sodium sulphite,	1200 grains.
Water to make,	10 ounces.

For use with correctly-exposed subjects such as ordinary landscapes, in which a fair amount of contrast is required, take

A solution,.....160 minims.
B solution,.....30 "
Water to make.....1 ounce.

Each ounce of the mixed developer will contain: kachin, 4 grains; sodium sulphite, 40 grains, and sodium hydrate, ½ grain.

This developer will give ample density and contrast without causing any veil upon the edges of the plate without the use of bromide. For a correctly-exposed subject, such as portraiture, in which less contrast is required, the developer may be altered as follows:

A solution, ...80 minims.
B solution,.....30 "
D solution,.....80 "
Water to make..... 1 ounce.

In this developer the proportion of kachin has been reduced to two grains to the ounce, the proportions of the other constituents remaining the same.

When sodium carbonate is preferred to sodium hydrate, twenty minims of the C solution should be substituted for the thirty minims of B, in which case each ounce of developer will contain five grains of sodium carbonate. In cases of under-exposure, where the action of the light has been sufficient to impress detail upon the plate, the following modifications will do all that is possible with any developer in the way of giving strength to the shadows without undue density in the lights.

A solution.....80 minims.
B solution.....60 "
D solution .....80 "
Water to make.....1 ounce.

A further addition of sodium hydrate will induce veil over the shadows, but if sodium carbonate is used the amount may be increased to twenty grains (eighty minims of C solution) with advantage.

In all these modifications the proportion of sodium sulphite should remain constant to the ounce of developer. Unless sufficient of the D solution is added to make up the deficiency, the quality of the negative will be impaired. A reduction in the quantity of sodium sulphite may, unless the amount of sodium

hydrate is also decreased, lead to a slight veil over the shadows, and if the proportions of both are lessened there will be difficulty in obtaining density.

With this developer compounded as above there is no necessity to use bromide, even when double or treble the correct exposure has been given. As bromide has a marked retarding influence upon its action, it follows that even gross over-exposure may be compensated for by its use. A single drop of a ten per cent. solution of potassium bromide will slow the action of the developer considerably. In cases of slight over-exposure all that is necessary is to make an addition to the proportion of kachin from the stock solution which carries with it an addition to the proportion of sodium sulphite. This with a slight decrease in the amount of sodium hydrate or sodium carbonate at the beginning of the development will keep the shadows clear, and allow sufficient density and contrast to be obtained. In grave cases of over-exposure, in addition to the increase of kachin and sodium sulphite, a quarter of a grain of potassium bromide to the ounce may be used, but this will necessitate an increase in the proportion of alkali to bring development within reasonable limits, and to obtain density.

A better method of dealing with over-exposure is to take advantage of an attribute peculiar to this developer. Kachin may have sodium hyposulphite added to it in such a quantity that *development and fixation proceed simultaneously*. This can be done in all cases except when under-exposure is suspected, as it has a tendency to give brilliant results, but this tendency is of great service in cases of over-exposure.

For correct exposures the following formula will give admirable results, and will serve as a basis to be modified for other conditions:

E—Stock solution of sodium hyposulphite.

Sodium hyposulphite,	1 ounce.
Water to make	2 "

Working solution for simultaneous development and fixation:

A solution	160 minims.
B solution	240 "
E solution	20 "
Water to make,	1 ounce.

In using this solution for a correctly-exposed plate, fixation will have taken place by the time development is complete.

In cases of over-exposure the proportion of B may be reduced to one-half and when development has proceeded some time, the proportion of hyposulphite may be increased, but in no case should the proportion at the beginning of development be greater than that stated above. When specially soft results are required, the proportion of kachin may be reduced to half with an addition of D solution to make up for the deficiency of sodium sulphite, and B solution may be increased to hasten development.

In addition to the saving of time effected by this method of working, it is possible—after the plate has been some time in the developer, and the image is clearly seen—to increase the amount of light. It is possible to complete the development of the most rapid plates by the light of an unshielded gas flame without grave risk of fog, if a little care is used, but such a proceeding is not to be recommended. A single sheet of orange glass or canary fabric will remove the danger, and allow sufficient light to pass for all purposes. With the increased amount of light and the removal of the silver bromide during development, the estimation of density becomes a simple matter.

Sodium corbonate cannot be used in the developer in conjunction with hyposulphite. Even when forty grains of sodium carbonate were used to the ounce of developer, the fixation outran development. When the proportion of hyposulphite was reduced to one-half that stated, a curious result took place. Development was extremely slow, and at first it appeared as if no image would be formed, but after an hour's action a positive image was formed strong in the shadows, but with a deposit of semi-opaque white silver in the lights. This deposit was not dissolved when the plate was transferred to the ordinary fixing bath. With fuller knowledge it may be possible to obtain good reversed negatives in this way.

The color of the negatives produced by kachin is a good black, free from any tint of blue.

In its power of giving contrasts, gradation, or extreme softness at will, with the entire absence of stain, katchin compares very favorably with pyro.—*Photography, London.*

REPRODUCING AND ENLARGING NEGATIVES

A paper by William H. Rau, read at the annual meeting of the Photo. Soc. of Phila., April 12, 1899.

THE process of reproducing negatives is one whose value has been underestimated or the difficulties exaggerated. It is needless to enumerate the various instances when it becomes desirable for the photographer, be he amateur or professional, to duplicate a negative. There are many of the former class who do not care to be encumbered with a large camera, but who, in the course of their travels, succeed in obtaining many artistic pictures, which, but for their size, would be well worthy of framing. It is always a satisfaction to the amateur photographer to point to sundry pictures adorning his wall, and exclaim with pardonable pride, "I made those!" By the process of reproduction it becomes possible for him to obtain an enlarged copy of his original negative, from which most satisfactory contact prints may be made.

It frequently, too, happens that a photograph is made with a small camera, not from choice, but from necessity, as for example, in photographing from a boat in motion. The negative thus made can be enlarged to the required size, with precisely the same result as if a larger camera had been used in the first place.

Sometimes a rare or valuable negative is made upon thin glass, and although it is necessary to make a number of prints from it, the owner does not care to risk its possible injury. A duplicate of the original easily solves the difficulty.

Again, an order comes in for a great number of prints, and it is found impossible to make them in the allotted time from one negative, but by reproducing this negative, the work is accomplished with facility.

A broken negative which cannot readily be replaced may be successfully reproduced.

I have, in fact, been called upon frequently to enlarge negatives where it was impossible or too expensive to make them over direct. A reversed negative is sometimes wanted of a choice subject for a photo-mechanical process.

Appreciating the value of the process, the first step is the making of the positive. No doubt carbon is the most satisfactory, as

there is no grain or deposit, but few can handle the process, and it is seldom used, excepting by some of the large firms, who have every facility at hand. Albumen is also most satisfactory, but the formula is complicated and tedious, and the once well-known "Edwards Process" is now obsolete, or seldom used. Thoroughly satisfactory results can be obtained with commercial gelatin dry plates. Various writers have contended either for contact or enlarged positives. My experience has been in favor of a contact positive, unless the resulting negative was to be greatly enlarged and the positive needed considerable spotting or artistic hand work.

Having carefully studied the character of the negative—its unevenness, its color—carefully clean the back, and place in a deep printing frame, a size larger than the negative, having in it a thin plate glass free from bubbles and scratches. Arrange the negative in the center, brushing away all grit or dust with a soft blender, and place the plate face down in contact with the negative, using a dark, soft pad between it and the back, which must be gently pressed into position.

A light of standard intensity should be adopted in order to insure success in exposing, and it should be enclosed in a lantern with an exposing door.

A Welsbach jet is uncertain unless the mantles are frequently renewed. An ordinary gas jet or incandescent lamp of either sixteen or thirty-two candle power will answer, although a good oil lamp is probably as sure as any other light, and quite satisfactory.

The length of exposure will depend on the speed of the plate, the distance from the light, and the density of the negative. A negative of average density with a rapid plate requires from three to six seconds, when the exposure is made within eighteen inches from the light, and increases with the distance. During the exposure, dodging may be resorted to—such as shading thin places or prolonging the exposure in dense portions by moving in front of the subject a card with a hole, moving this so that no sharp outline may result.

I prefer using a plate a size larger than the negative in order to get a more even positive. Having properly exposed the plate, development is next in order. Any good developer will do, but I prefer one giving a gray image, similar to wet collodion. I have

used, for several years, a formula worked out by Mr. William Bell, which is most satisfactory, and is as follows:

No. 1.

Water..... 64 ozs.
Sulphite of soda crystals,..... 4 ozs.

Dissolve, and make slightly acid with sulphuric acid C. P., then add

Eikonogen.....320 grs.
Hydroquinone .....320 grs.

No. 2.

Water ..... 64 ozs.
Sulphite of soda crystals..... 2 ozs.
Carbonate of potash ..... 8 ozs.

To dissolve the sulphite of soda crystals in No. 1 solution, heat about one-third of the water, and the soda will dissolve more readily. To develop use equal parts of No. 1 and No. 2.

In warm weather, reduce with one-third water. Bromide is a very active restrainer, and should be used cautiously. Should a positive be desired requiring brilliancy, use less of No. 2 and more of No. 1, and vice versa.

Develop slowly and carefully, and try for a positive that will have the highest lights fully covered, and the shadows soft and full of detail. Should it be the intention to enlarge the negative, then make the positive somewhat weaker than for contact. I believe most failures are due to poor positives, and I will show two that I used to enlarge from that are just right. A positive cannot safely be judged by artificial light, as color will show only in daylight.

Should the negative to be reproduced be broken, carefully lay the pieces together, bringing them in close contact, and if possible, hold the printing frame during exposure in such position that the cracks will cast no shadow; if this is not possible, move the frame slowly during exposure, to lessen the shadow of the break. The positive should then be placed in the hands of a skilled etcher and retoucher, who can scrape away and fill in with ink, until the mark is lost. In fact, a great amount of careful retouching can often be done on the positive.

The making of the negative is done in precisely the same manner as making the positive, when a negative of the same size is desired.

Should the reproduction be wanted for phototyping, or any process requiring a reversed negative, the negative must be made in the camera, placing the positive in a position with the film turned away from the lens. In enlarging negatives, either a lens of short focus or a camera having a long bellows should be used. Any good lens will do, although I prefer one that is rapid and rectilinear. The time of exposure depends on conditions of light, color of the positive, and speed of the plate used. In this part of the process I generally use rapid plates, and develop precisely as though the exposure was a portrait or landscape, watching for the same effect, and in every way judging the result of the same. —*Journal Photo. Soc. of Phila.*

KODAK FILM IN SPECTROSCOPIC PHOTOGRAPHY

SIR Norman Lockyer has lately been experimenting, and very successfully, with flexible film, with the idea of adapting it to spectroscopic photography. The large concave Rowland grating which Sir Norman Lockyer is now using for his solar spectroscopic photographs has 20,000 lines to the inch ruled on its surface and is of 21½ feet radius, giving a spectrum 30 inches long. The focal plane of this grating is of necessity considerably curved, in fact the plane of accurate definition at the edges of the field is about 0.5 inches in front of the similar plane at the center. It is therefore impossible to get a sharp photograph of the whole spectrum on a glass plate, in fact not more than 18 to 20 inches of the spectrum can be brought into focus on the same plane. This difficulty is, of course, got over by the use of a flexible film, which can be bent to the curvature of the field.

The Kodak Company have sent us a print of one of Sir Norman's photographs taken with this Rowland concave grating. This must be the longest solar spectrum photographed at a single operation. It is 30 inches long, and shows the arc spectrum of iron with a comparison spectrum of the sun from wave length 3,600 to 5,200.

ACTION OF PEROXIDE OF HYDROGEN ON PHOTOGRAPHIC PLATES

[CONCLUDED]

THE next point which naturally suggests itself is whether peroxide of hydrogen is, or is likely to be, present in all the different cases when action on the sensitive plate occurs. First, with regard to the metals. The list of the active metals, which has already been given, is as follows, arranged approximately in order of their activity: Magnesium, cadmium, zinc, nickel, aluminum, lead, cobalt, bismuth, tin. Now, these are certainly the metals which might be expected to decompose water and, in the presence of oxygen, cause the formation of hydrogen peroxide, and still more the order in which they stand in the above list, judging from their general properties, is that in which they would probably induce the formation of the peroxide. It is also satisfactory to note that this list of metals and their order of activity was drawn up simply from experiment, when there was no idea that hydrogen peroxide had anything to do with the reaction. Again, as a confirmation that hydrogen peroxide is formed when these metals oxidize in moist air, pieces of Dr. Wurster's tetra paper were moistened and laid on bright surfaces of the metal. With the metals that head the foregoing list a considerable amount of blue color was rapidly developed; with the metals at the end of the list the amount of color was less and the reaction slower; and with other metals, such as silver and platinum, there was no action. With copper and with iron a very slight amount of action did occur, but these metals do not appear able to produce definite pictures. Iodide of potassium and starch paper, where used in the same way, gave a blue color with all the active metals, but none with copper nor with iron.

On the supposition that hydrogen peroxide is the active agent in the action exerted by the metals, it seemed probable that, on supplying to the metal more moisture than it obtained from the air and photographic plate, more action would take place, and this was found to be the case. Two pieces of polished zinc were placed in contact with photographic plates in small iron boxes; one box was quite dry and put in a bell jar over calcium cloride, and into the other box some damp paper was introduced, and the box was

placed with a little water under a bell jar. On examining the plates after three days, it was found that the damp plate had much the darker picture on it.

With the object of obtaining an increased amount of action, experiments were made by passing a current of warm moist air over zinc turnings. A glass tube, six feet long and one inch in diameter, was packed with zinc turnings and placed within a large brass tube to which steam could be admitted. The amount of action, if any, was indicated on a plate placed in a dark box at the end of the tube. Even under the most favorable conditions no very large amount of action took place. When a current of moist warm air was passed through the tube for an hour, a fairly dark picture was obtained. If the air was dry, no picture appeared. If amalgamated zinc was used in place of pure zinc, a darker picture was formed, and, as a check on these results, dry and moist air, both warm and at ordinary temperatures, was passed through the tube, no zinc being present, and then no action took place; also, when ozinized air was passed through the tube, there was no action. Passing now from the metals to the organic bodies capable of acting on a photographic plate, it has been found that they belong essentially, if not solely, to that class of bodies known as terpenes, and it is a general property of all this class of bodies, when oxidizing, to give rise to hydrogen peroxide. Thanks to Dr. Tilden, experiments have been made with most of the terpenes, and all were found to be very active bodies; both pinene and limonene were tried, in their dextro and lævo-rotatory state, but their activity appeared to be the same. Oxidized and other compounds connected with the terpenes, such as terpeneol camphor, thymol cymene, have no power of acting on a photographic plate, but ordinary turpentine and terebene are very active bodies.

Most of the ordinary essential oils, such as bergamot, peppermint, pine, lemons, cajuput, etc., have been experimented with, and, without exception, have been found to be active bodies, It is well known that they all contain terpenes; they are also characterized by a strong odor, and as ordinary scents contain some of these bodies, it follows that almost all vegetable bodies having a strong smell are capable of acting on a photographic plate. Eau de cologne gives a good picture; so do many wines and brandy, and coffee, guaiacum, cinnamon, are also active substances; thus the photographic plate becomes a very delicate test

for the presence of all these bodies, and, as the action is cumulative, it may even compete with the sense of smell.

In addition to the essential oils, the ordinary vegetable oils, such as linseed oil, which is the most active, and colza and olive, which are much less active and have much less power of absorbing oxygen from the air, can act on a photographic plate. The tetra paper readily goes blue if suspended in a bell jar which has a few drops of linseed oil in a dish within it.

The mineral oils are, on the contrary, devoid of this power of acting on the sensitive plate, and the same applies to bodies such as benzine, phenol, naphthalene, aldehyde, methyl, alcohol, coal naptha, etc.

It would seem, then, that all the organic bodies capable of acting on the photographic plate are capable of giving rise to the formation of hydrogen peroxide when they oxidize in moist air.

W. J. RUSSELL, Ph.D., V.P.R.S.

—*Chemical News.*

HOT WEATHER AND FORMALDEHYDE

HENRY LÜDEKE

FORMALDEHYDE, or formaline, as the preparation of the same chemical is called, is one of the great blessings which has been given to the photographer who works much with development during hot weather, when the thermometer runs up to a hundred in the shade.

We used to have recourse to chrome alum, but formaldehyde is more convenient and does the work better and besides never opalases the film.

Formaldehyde is the great anti-frill—and no one should undertake development in hot or especially humid hot weather without a solution of it at his right hand; but some precautions are necessary in its use.

One drachm to eight ounces is strong enough, and it may be used repeatedly without any diminution in its energy.

Keep your developer cool with ice, and after development is complete, rinse off with ice water before placing it in the formal-

dehyde, especially if you use pyro as a developing agent, the neglect to do so will produce a yellow stain on fixing which is almost impossible to get rid of—without injury to the film.

One moments rocking in the formaldehyde is sufficient to prevent any puckering or frilling in the hypo.

Some operators, to make "assurance doubly sure," harden again after fixing, but this is generally unnecessary and should only be done when there are indications of softening of the film.

It is not well to subject the plate or film too long to this hardening action because it makes the film brittle sometimes to the extent of producing cracks, and even breaking from the glass during printing. Besides if one wishes to tone, reduce, or intensify the negative, much difficulty is experienced in securing uniformity of action by reason of the repellent hard surface.

Solution of formaldehyde is also useful in hardening the surface of aristo prints to prevent blistering; but for such purpose the formaldehyde should be used more dilute than for plates and always fresh for each batch of prints to prevent stains.

In platinum work, during hot weather, the development should take place as soon as possible after printing, otherwise there is a liability to flatness in the print, as it is more difficult to secure the velvety, black tones in summer; the inclination is to bluish-black. The developer should be used weaker. In bromide work and albumen printing, blistering after removal from hypo may be prevented by allowing the wash water to flow gradually in the hypo after fixing has been completed, until all the hypo is washed out of the tank and nothing but water remains. Further washing, of course, is necessary. This method is wasteful of the hypo, to be sure, but the prints are worth more.

In negative making the amateur should not forget that less alkali is needed to do the work during hot weather. A slight excess, or the amount he is accustomed to use during cold weather makes it difficult to get proper density.

Hot weather is somewhat trying to the carbon worker, frilling, blisters and reticulation are apt to show their uncanny presence.

There is a tendency, during hot weather, for the paper to dry limp, but it is preferable to have it a little crisp, and hence the drying room should be away from washing tanks and a little chloride of calcium placed in a saucer in the room to absorb any moisture. Salicylic acid is useful in preventing reticulation.

A FRIENDLY CHAT WITH THE AMATEUR

BY AN OLD AMATEUR

WHETHER photography be art or a mere handicraft, one thing is certain, to produce a picture with effect demands a degree of artistic taste in the operator. To direct the camera to any object or scene in nature and expect by accuracy of focussing, proper timing and development to get anything pleasing is presumption. Good taste is synonymous with good judgment, and it is in reality the judgment which exercises the power of selection.

The striver after the picturesque should have constantly in view the effect to be produced not by any one portion of the picture but by the unity of all the parts. That is the different planes of the picture should harmonize, and only that portion should receive emphasis which is, as it were, the key note to the composition.

What is called the new photography has made some novel strides in the art, and as an old amateur accustomed to the legitimate methods for securing pictorial effect in photography I was at first for condemning in toto the new departure.

It savored of what we would have called in the past slouchiness and smear, and indeed the majority of the innovations do deserve no better designation. Still some, like the impressionalists in painting, have opened our eyes to discoveries in photographic art and have wrung from artists at last a recognition that photography may sometimes open a school for art. The audacity of some of the attempts on the other hand have rendered photography ridiculous—but in any radical movement there is a tendency to run to extremes, and on the whole I think our art has been benefited by the movement. Still as I am writing this paper exclusively for the beginner I would say that it is better he bridle his aspirations after high art until he acquires skill by going in the beaten track.

His object is to make a picture of course, and he will not go amiss if he implicitly follows rules for the production of it.

He should remember that a foreground is as necessary to a picture as a middle ground or distance; but he should likewise remember not to overload his foreground with too many objects nor to make it so bare as to destroy the balance of the picture.

Shifting the position of the camera will often present a more

effective point of view or enable him to get rid of some unsightly or obtrusive object just too near his camera.

The amateur is prone to put figures in his foreground. Indeed if rightly placed nothing adds more to the effect of the scene, but if the judgment is not exercised in posing them nothing is more annoying to the artist's eye.

There is a natural desire in those photographed to show their faces in the picture, but if the photographer cannot induce them to subordinate their desires to the picturesque let him not attempt to make the landscape the background to such a group. It looks like an insult to the scene for people to turn their backs on it.

It is best to have the figures in attitude representing some action and if possible in costumes appropriate to the surroundings.

There is a good deal of discussion about focus just now, but heed it not. Try to get your picture sharp—not necessarily sharp as a needle as they say—the distance, for instance, rendered so that the detail is microscopic, secured by using the smallest size diaphragm.

The foreground will stand a good degree of sharp focus as the eye is first directed to it—but it is generally best to divide the focus between the foreground and middle distance.

Attention to detail is absolutely necessary, nothing effective can be done carelessly. It is better to take a single picture and to make several exposures than to flash off a great number without any consideration as to composition. It is a reward for the care taken to watch the picture emerge in its beauty from the developer.

Carelessness and over excitement in the exposure of the plates is the principle cause why beginners forsake photography, disgusted with their failures which the method of hastening slowly would avoid.

It is true that many effective pictures are obtained by pointing the camera directly or almost directly towards the light ; but such exposures require skill and experience.

The beginner should, therefore, select an illumination where the light falls upon the view in such a manner that there shall be effective shadows.—That is, the subject should not be equally illuminated all over, nor wholly in shadow.

It is not necessary for the sun to shine brightly, for sometimes

when the light is subdued its effect is most charming. Water taken in the shade presents the characteristics of water much better than when a glare of sunlight is upon it. The reflection of the light causes only a dead white surface in the picture which looks more like snow than water.

A bright sunny day gives more contrast but great contrast is not always desirable and often most charming effects may be had when there is considerable haziness in the atmosphere.

The artistic quality of the picture also depends upon the proper rendering of the foliage. Avoid making exposures when the leaves are in motion and also avoid too dense massing of the foliage.

Dense black foliage without detail is very unpleasing. Motion of the foilage is more perceptible in the foreground.

Often when the sun is behind a light bank of clouds the best results are obtained. The photographer should not forget that shadow as well as light is demanded by an artistic view. Do not try to get all the light possible upon the scene by working with the sun behind the camera.

The proper rendering of still water demands the greatest attention. Nothing is easier than to give it the appearance of a flat bed of chalk, but to get the real appearance of water with beautiful reflections, showing it to be a mobile transparent fluid requires special management of the light.

Too great a flood of light upon the surface often results in giving such density that all reflection is destroyed especially if the sun is in front.

[TO BE CONTINUED.]

PHILADELPHIA PHOTOGRAPHIC SALON—1899

THE Pennsylvania Academy of the Fine Arts has the honor to announce that under joint management with the Photographic Society of Philadelphia, the Philadelphia Photographic Salon for 1899 (second year) will be held in the Galleries of the Academy, Broad Street, above Arch, from October 22 to November 19, 1899.

The purpose of the Salon is to exhibit that class of work only in which there is distinct evidence of individual artistic feeling

and execution, the pictures to be rigidly selected by a competent jury.

Pictures which have already been shown in Philadelphia at any exhibition open to the *general* public will be liable to exclusion.

No awards are offered, and no charge will be made to exhibitors. Each exhibitor will be furnished with a catalogue, which will be the official notification of acceptance.

No exhibitor may submit more than ten pictures, each of which *must be framed* separately.

The title of each picture and the exhibitor's name and address must be clearly written on the labels provided, which must be attached by the exhibitor to the back of each picture. Nothing may appear on front of picture except the title and exhibitor's name.

No accepted pictures may be removed before the close of the Exhibition.

Arrangements will be made for the sale of pictures if desired, subject to a commission of fifteen per cent.

All communications and all pictures submitted for exhibition must be addressed to the Pennsylvania Academy of the Fine Arts, Broad Street, above Arch, Philadelphia, Penna., U. S. A. All pictures must be forwarded at owner's risk, *carriage prepaid*, and delivered at the Academy not later than 5 P. M., October 2, 1899.

Return charges must be collected by carrier.

The management will use all reasonable care to prevent any loss or damage to pictures in its charge, but will not be responsible for such occurrence.

TO FOREIGN EXHIBITORS.

Mr. A. Horsley Hinton, 1 Creed Lane, Ludgate Hill, E. C., London, has kindly consented to act as General Foreign Representative. Circulars, entry forms, labels, etc., also any special information desired will be furnished by him on application.

The following Shipping Agents have also been appointed: Mr. William Whiteley (Mr. Wiggins, Manager Shipping Department), 115 Queen's Road, Bayswater, W., London, England; and Messrs. Guinchard and Fourniret, 76 Rue Blanche, Paris, France.

Pictures delivered to either of the above Shipping Agents, not later than August 15, *carriage prepaid*, properly labelled, marked

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"*For the Philadelphia Photographic Salon*,," and accompanied by entry forms, will be transported to the exhibition and returned to the Shipping Agent in London or Paris, free of all expense to the exhibitor.

United States Custom House charges on all foreign exhibits sent through the above Shipping Agents, will be borne by the management.

Jury of Selection:—Mr. F. Holland Day, Boston, Mrs. Gertrude Kasebier, New York, Mr. Clarence H. White, Newark, Ohio, Miss Frances B. Johnson, Washington, D. C., Mr. Henry Troth, Philadelphia.

The Pennsylvania Academy of the Fine Arts:—Edward H. Coates, President, Harrison R. Morris, Secretary.

The Photographic Society of Philadelphia:—Robert R. Redfield, George Vaux, Jr., John G. Bullock.

Philadelphia, Pa., U. S. A.,
June 1, 1899.

SCIENTIFIC NOTES

Richard Zigismondi, according to a paper printed in the *American Chemical Journal*, has succeeded in making aqueous solutions of metallic gold, similar to those of metallic silver, made some years ago by M. Carey Lea, of this city. Like the silver solutions, they are also of various shades of red, blue and black. The aqueous solutions are obtained by acting on very dilute, slightly alkaline, boiling-hot solution of chloride of gold, with some reducing agent as the formic or acetic aldehydes.

Twenty-five c.c. of a two per cent. solution of chloroauric acid is diluted with 100 c. c. of pure distilled water, made alkaline with 4 c.c. of a $\frac{2}{10}$ normal solution of carbonate of potassa, the solution boiled, instantly removed from the flame and a four per cent. solution of formaldehyde gradually added. In a short time the solution changes from coolrless to deep red, which retains its clearness and color for several months. This red modification was the subject of special investigation of the experimenter.

Kachin, the Latest Developer.—Still another developer comes up with high claims, but it is not yet in the market. The favored ones who have received small samples of it, however, speak in

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glowing terms of its value. It is called Kachin and seems to be an ideal developer, having all the vigor and energy of pyro without any tendency to discolor the solution or stain the skin, keeps well and is readily soluable, thus having advantage over Metol and Eikonogen, nor is there any reduction of density in the fixing bath, so that the degree obtained in the developer persists. The finished negatives are particularly clean and clear in the shadows, and the color a beautiful black in the high lights. An especial advantage is that the mixed solution of developer may be used over and over, and even kept for days, even after a number of plates have been developed in it.

Restrainers like potassium bromide act very energetically in connection with it—a few drops having a great retarding power,—so that considerably overtimed plates may be made to yield excellent negatives.

Mr. E. W. Foxlee, in the *British Journal of Photography*, June 16th, has an interesting paper on Katchin.

BOOKS RECEIVED

The Half-Tone Process.—From the Scovill & Adams Co. we have received a miniature book, which may be carried in the top vest pocket, but which, notwithstanding its liliputian dimensions, contains much valuable information about the half-tone process, the use of the screen and the diaphragm system. It is well worth the study of all interested in half-tone work, whether they use the Hugo screen or not, the virtue of which it especially dilates upon.

"Photographic Life" is the name of a new venture in photographic literature published by the Nepera Chemical Co., of Nepera Park. It is edited and conducted by Mr. Walter Woodbury, late editor Scovill's *Photographic Times*. Its design is to cater to the amusement of the photographic reader as well as to supply him with photographic pabulum.

The first number is beautifully illustrated, presenting work of Moreno Steiglitz and Eickmeyer. Under the editorship of Mr. Woodbury we are sure, that despite the humorous vein, we shall have a rich bed of valuable photographic ore from which many a precious ingot may be extracted.

We wish the enterprise success.

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"The Photogram" for June is a double number and is of special importance to the trade in presenting a 24 p. supplement, containing 1500 trade names used in the photographic business. It also contains an interesting article on Rochester, the great Camerapolis.

The Nepera Chemical Co. is issuing Velox postal cards for souvenir purposes, upon which a picture may be printed and developed in the usual way and sent to their destination by affixing a one-cent U. S. stamp. The Company also placed on the market a double-weight Velox paper in special rough grade, which enables one to dispense with the mount.

CONVENTION DATES

Nebraska Convention :

Omaha, July 26th, 27th and 28th.
Secretary, W. P. Fritz.

Missouri Convention :

St. Louis, Mo., August 22nd, 23rd, and 24th.
Secretary, A. S. Robertson, St. Louis, Mo.

Ohio Association :

Put-In-Bay, O., August 30th and 31st, September 1st.
Secretary, C. S. Bateham, Norwalk, O.

Photographers' Club of New England :

Boston, Mass., October 5th and 6th.
Secretary, G. E. Putnam.

The International Photographic Exposition :

New York, October 21st to 28th.

Philadelphia Photographic Salon :

October 22nd to November 19th.

Indiana Association :

Indianapolis, March 6th, 7th and 8th, 1900.
Secretary, W. O. Nicely, Bloomington, Ind.